

**What is claimed is:**

1. A method of producing coronary vasodilation without peripheral vasodilation comprising administering at least 10  $\mu\text{g}$  of at least one  $A_{2A}$  receptor agonist to a human.
- 5 2. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount that does not exceed about 1000  $\mu\text{g}$ .
3. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount ranging from about 10 to about 600  $\mu\text{g}$ .
4. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in a  
10 single dose.
5. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered by iv bolus.
6. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount ranging from about 0.05 to about 60  $\mu\text{g}/\text{kg}$  and wherein the  $A_{2A}$  receptor agonist is  
15 administered by iv bolus.
7. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount ranging from about 0.1 to about 30  $\mu\text{g}/\text{kg}$  wherein the  $A_{2A}$  receptor agonist is administered by iv bolus.
8. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an  
20 amount no greater than about 20  $\mu\text{g}/\text{kg}$  to a supine patient and wherein the  $A_{2A}$  receptor agonist is administered by iv bolus.
9. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount no greater than about 10  $\mu\text{g}/\text{kg}$  to a standing patient wherein the  $A_{2A}$  receptor agonist is administered by iv bolus.
- 25 10. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount ranging from about 10 to about 600  $\mu\text{g}$  wherein the wherein the  $A_{2A}$  receptor agonist is administered in about 20 seconds.
11. The method of claim 1 wherein the  $A_{2A}$  receptor agonist is administered in an amount ranging from about 10 to about 600  $\mu\text{g}$  wherein the  $A_{2A}$  receptor agonist is  
30 administered in less than about 10 seconds.

12. The method of claim 1 wherein the A<sub>2A</sub> receptor agonist is administered in an amount greater than about 100 µg.
13. The method of claim 1 wherein the A<sub>2A</sub> receptor agonist is administered in an amount no greater than 600 µ.
- 5 14. The method of claim 1 wherein the A<sub>2A</sub> receptor agonist is administered in an amount no greater than 500 µg.
15. The method of claim 1 wherein the A<sub>2A</sub> receptor agonist is administered in an amount ranging from about 100 µg to about 500 µg.
16. The method of claim 1 wherein the A<sub>2A</sub> receptor agonist is selected from the group consisting of CVT-3033, CVT-3146 and combinations thereof.
- 10 17. A method of myocardial perfusion imaging of a human, comprising administering a radionuclide and a A<sub>2A</sub> receptor agonist to the human wherein the myocardium is examined for areas of insufficient blood flow following administration of the radionuclide and the A<sub>2A</sub> receptor agonist.
- 15 18. The method of claim 17 wherein the myocardium examination begins within about 1 minute from the time the A<sub>2A</sub> receptor agonist is administered.
19. The method of claim 17 wherein the administration of the A<sub>2A</sub> receptor agonist causes at least a 2.5 fold increase in coronary blood flow.
20. The method of claim 17 wherein the administration of the A<sub>2A</sub> receptor agonist causes at least a 2.5 fold increase in coronary blood flow that is achieved within about 1 minute from the administration of the A<sub>2A</sub> receptor agonist.
- 20 21. The method of claim 17 wherein the radionuclide and the A<sub>2A</sub> receptor agonist are administered separately.
22. The method of claim 17 wherein the radionuclide and the A<sub>2A</sub> receptor agonist are administered simultaneously.
- 25 23. The method of claim 17 wherein the administration of the A<sub>2A</sub> receptor agonist causes at least a 2.5 fold increase in coronary blood flow for less than about 5 minutes.
24. The method of claim 17 wherein the administration of the A<sub>2A</sub> receptor agonist causes at least a 2.5 fold increase in coronary blood flow for less than about 3 minutes.
- 30 25. The method of claim 17 wherein the A<sub>2A</sub> receptor agonist is CVT-3146 which is administered in an amount ranging from about 10 to about 600 µg in a single iv bolus.

26. The method of claim 25 wherein CVT-3146 is administered in an amount ranging from about 100 to about 500  $\mu\text{g}$  in a single iv bolus.

27. The method of claim 17 wherein the  $\alpha$   $\text{A}_{2\text{A}}$  receptor agonist is CVT-3146 which is administered in a single dose in an amount ranging from 10 to about 600  $\mu\text{g}$  that is  
5 independent of the weight of the human being dosed.

28. The method of claim 27 wherein the dose is administered in about 30 seconds or less.

29. The method of claim 27 wherein the dose is administered in about 20 seconds or less.

10 30. The method of claim 17 wherein the  $\text{A}_{2\text{A}}$  receptor agonist is administered in a single dose.